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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,149	05/11/2001	Steven Weil	MS1-747US	6784

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EXAMINER


RIES, LAURIE ANNE

ART UNIT PAPER NUMBER

2176

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/854,149	Applicant(s) WEIL ET AL. 	
	Examiner Laurie Ries	Art Unit 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "good margins" is not defined and thereby fails to specify the limitations of the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9, 11-19, 21-26, 28-32, 42-43, 45-48, and 50-51 are rejected under 35 U.S.C. 102(e) as being anticipated by Kelley (U.S. Patent 6,694,485 B1).

As per claim 9, Kelley discloses a method and computer program for facilitating enhanced readability of digital documents, including paginating one or more pages of the document into multiple virtual pages (See Kelley, Figure 5, element 102, and Column 7, lines 13-23), and placing a virtual-page boundary

Art Unit: 2176

so that the boundary is not coextensive with the identified line of text (See Kelley, Column 6, lines 63-67, and Column 7, lines 1-4).

As per claim 11, Kelley discloses identifying and locating lines of text within the pages of the digital document. (See Kelley, Figure 6, and Column 7, lines 13-23).

As per claim 12, Kelley discloses determining whether a virtual-page boundary is coextensive with a line of text. (See Kelley, Figure 6, and Column 7, lines 13-23).

As per claim 13, Kelley discloses adjusting the virtual-page boundary if the boundary is coextensive with a line of text so that the boundary is not coextensive with the line. (See Kelley, Column 6, lines 63-67, and Column 7, lines 1-4).

As per claim 14, Kelley discloses displaying a virtual page of the multiple virtual pages and doing so without displaying overlap. (See Kelley, Figure 4, and Column 6, lines 60-62).

As per claim 15, Kelley discloses displaying virtual pages of the multiple virtual pages where unrepeated content of a multiple virtual page starts at a common spatial position on the multiple virtual page. (See Kelley, Figure 6, and Column 7, lines 18-23).

As per claim 16, Kelley discloses that the paginating includes determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins. (See Kelley, Figure 6, and Column 7, lines 13-32).

As per claim 17, Kelley discloses computer-readable media having computer-executable instructions that, when executed by the computer, perform the method recited in claim 9. (See Kelley, Figure 5, element 102, Column 6, lines 63-67, Column 7, lines 1-4, and Column 7, lines 8-12).

Claim 18 is rejected on the same basis as claim 17.

As per claim 19, Kelley discloses a method for facilitating enhanced readability of a digital document, including paginating one or more pages of a digital document into multiple virtual pages (See Kelley, Figure 5, element 102, and Column 7, lines 8-12), and displaying the virtual pages of the multiple virtual pages and doing so without displaying overlap. (See Kelley, Figure 4, and Column 6, lines 60-62).

As per claim 21, Kelley discloses separating the one or more pages of the digital document into multiple virtual pages without splitting lines of text of the document. (See Kelley, Column 2, lines 22-26).

Claim 28 is rejected on the same basis as claim 21.

As per claim 22, Kelley discloses identifying lines of text within the digital document (See Kelley, Column 2, lines 22-23), and separating the one or more pages of the digital document into multiple virtual pages between lines of text. (See Kelley, Column 2, lines 34-38).

Claim 29 is rejected on the same basis as claim 22.

As per claim 23, Kelley discloses a computer including one or more computer-readable media having computer-executable instructions that, when

executed by the computer, perform the method recited in claim 19. (See Kelley, Column 7, lines 8-12, and Column 6, lines 60-62).

Claims 24, 30 and 50 are rejected on the same basis as claim 16.

Claims 25, 31 and 32 are rejected on the same basis as claim 23.

As per claim 26, Kelley discloses a method for enhancing the readability of a digital document including paginating one or more pages of a digital document into multiple virtual pages (See Kelley, Figure 5, element 102, and Column 7, lines 8-12), and displaying the virtual pages of the multiple virtual pages, where unrepeated content of a multiple virtual page starts at a common spatial position on the multiple virtual page. (See Kelley, Figure 6, and Column 7, lines 18-23).

As per claim 42, Kelley discloses a method for facilitating the enhanced readability of a digital document including determining an integer number of virtual pages per page of a digital document while maintaining legibility, aspect ratio, and good margins (See Kelley, Figure 6, and Column 7, lines 13-32), and paginating, accordingly, one or more pages of the digital document into multiple virtual pages. (See Kelley, Figure 5, element 102, and Column 7, lines 8-12).

As per claim 43, Kelley discloses determining the minimum integer number of virtual pages per page of the digital document. (See Kelley, Figure 6, and Column 7, lines 13-32).

As per claim 45, Kelley discloses displaying one or more of the virtual pages. (See Kelley, Figure 4, and Column 6, lines 60-62).

As per claim 46, Kelley discloses a computer-readable medium having computer-executable instructions that, when executed by a computer, performs

the method recited in claim 42. (See Kelley, Figure 4, Column 7, lines 8-32, and Column 6, lines 60-62).

Claim 47 is rejected on the same basis as claims 11, 12, 18 and 19.

As per claim 48, Kelley discloses a system where the analyzer is configured to identify and locate lines of text within the one or more pages of the digital document (See Kelley, Figure 6, and Column 7, lines 13-32), determine whether a virtual-page boundary is coextensive with an identified line of text (See Kelley, Figure 6, and Column 7, lines 13-32), and responsive to such determining, adjust the virtual-page boundary if the boundary is coextensive with the identified line of text so that the boundary is not coextensive with the identified line. (See Kelley, Column 6, lines 63-67 and Column 7, lines 1-4).

Claim 51 is rejected on the same basis as claim 17.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8, 10, 20, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) in further view of Warnock (U.S. Patent 5,634,064).

As per claim 1, Kelley discloses a method and computer program for facilitating enhanced readability of digital documents, including paginating one or more pages of the document into multiple virtual pages (See Kelley, Figure 5, element 102, and Column 7, lines 13-23), identifying and locating lines of text within the one or more pages of the document (See Kelley, Figure 6, and Column 7, lines 13-23), determining whether a virtual page boundary is coextensive with an identified line of text (See Kelley, Figure 6, and Column 7, lines 13-32), and adjusting the virtual page boundary if the boundary is coextensive with the identified line of text so that the boundary is not coextensive with the identified line of text (See Kelley, Column 6, lines 63-67, and Column 7, lines 1-4). Kelley does not disclose expressly that the digital document is a fixed digital document. Warnock discloses obtaining a fixed (or predetermined format) digital document (See Warnock, Figure 3b). Kelley and Warnock are analogous art because they are from the same field of endeavor of viewing electronic documents. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the fixed digital document of Warnock with the method and program for improving the readability of digital documents of Kelley. The motivation for doing so would have been to present the document so as to appear to the reader in the same manner as was intended by the publisher. (See Warnock, Column 1, lines 63-66). Therefore, it would have been obvious to combine Warnock with Kelley for the benefit of providing a familiar visual display of a fixed digital document to the reader to obtain the invention as specified in claim 1.

As per claim 2, Kelley and Warnock disclose the limitations of claim 1 as described above. Kelley also discloses displaying a virtual page of the multiple virtual pages without displaying overlap. (See Kelley, Figure 4, and Column 6, lines 60-62).

As per claim 3, Kelley and Warnock disclose the limitations of claim 1 as described above. Kelley also discloses displaying virtual pages of the multiple virtual pages where unrepeated content of multiple virtual pages starts at a common spatial position on the multiple virtual pages. (See Kelley, Figure 6, and Column 7, lines 18-23).

As per claim 4, Kelley and Warnock disclose the limitations of claim 1 as described above. Warnock also discloses displaying virtual pages of the multiple virtual pages where a top synthetic virtual-page margin is displayed so that the content of the virtual page starts at a common spatial position, as determined by an offset calculated in pixels. (See Warnock, Figure 7, element 164, and Column 13, lines 38-53). Kelley and Warnock are analogous art because they are from the same field of endeavor of viewing electronic documents. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the top synthetic virtual-page margin of Warnock with the method and program of Kelley and Warnock. The motivation for doing so would have been to allow for the determination of the end of the article or document by calculating the offset value in relation to the window height. (See Warnock, Column 13, lines 54-56). Therefore, it would have been obvious to combine Warnock with Kelley

for the benefit of determining the end of the article or document to obtain the invention as specified in claim 4.

As per claim 6, Kelley and Warnock disclose the limitations of claim 1 as described above. Kelley also discloses determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins. (See Kelley, Figure 6, and Column 7, lines 13-32).

Claims 7-8, 10, 20 and 44 are rejected on the same basis as claim 1.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) and Warnock (U.S. Patent 5,634,064) as applied to claim 1 above, and further in view of Baum (U.S. Patent 6,188,779 B1).

As per claim 5, Kelley and Warnock disclose the limitations of claim 1 as described above. Kelley and Warnock do not disclose expressly performing at least minimal OCR on content of the document to locate line boundaries. Baum discloses performing OCR on the content of a document to determine boundaries. (See Baum, Column 5, lines 65-67, and Column 6, lines 1-27). Kelley, Warnock, and Baum are analogous art because they are from the same problem-solving area of paginating digital documents. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the OCR of the content of the document of Baum with the method and program for improving the readability of digital documents of Kelley and

Warnock. The motivation for doing so would have been to identify regions of the document that are tightly defined about the probable text. (See Baum, Column 5, line 67, and Column 6, lines 1-2) Therefore, it would have been obvious to combine Baum with Kelley and Warnock for the benefit of locating gaps between tightly defined regions of text within the document to obtain the invention as specified in claim 5.

Claims 27, 49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) as applied to claim 26 above, and further in view of Warnock (U.S. Patent 5,634,064) and Klinefelter (U.S. Patent 4,965,670).

As per claim 27, Kelley and Warnock disclose the limitations of claim 26 as described above. Kelley does not disclose expressly lowlighting to visually identify context within a document. Warnock also discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24). Kelley also does not disclose expressly identifying the repeated content repeated from another virtual page. Klinefelter discloses displaying repeated text. (See Klinefelter, Column 21, lines 31-43). Kelley, Warnock, and Klinefelter are analogous art because they are from the same problem-solving area of displaying text online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the use of the lowlighting or half-tone of Warnock to identify the repeated text of Klinefelter with the method disclosed by Kelley. The motivation for doing so would have been to provide a

visual indicator of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Klinefelter and Warnock with Kelley for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 27.

Claim 49 is rejected on the same basis as claim 27.

Claim 52 is rejected on the same basis as claims 27, 31 and 47.

Claims 33-37, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1) in further view of Warnock (U.S. Patent and Atkinson (U.S. Patent 4,622,545).

As per claim 33, Kelley discloses a method for improving the readability of a digital document including paginating one or more pages of the digital document into multiple virtual pages (See Kelley, Figure 5, element 102, and Column 7, lines 8-12), and displaying one or more virtual pages of the multiple virtual pages and doing so without overlap on a virtual page, where the overlap of one virtual page includes content of the document repeated from another virtual page. (See Kelley, Figure 4, and Column 6, lines 60-62). Kelley does not disclose expressly that the digital document is a fixed digital document. Kelley also does not disclose expressly indicating overlap during the displaying, where the content of overlap is differentiated from other content. Warnock discloses a fixed (or predetermined format) digital document (See Warnock, Figure 3b). Atkinson discloses indicating overlap that is differentiated from other content. (See Atkinson, Figure 7, and Column 10, lines 19-36). Kelley, Warnock and

Atkinson are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the fixed digital document of Warnock with the method and program for improving the readability of digital documents of Kelley. The motivation for doing so would have been to present the document so as to appear to the reader in the same manner as was intended by the publisher. (See Warnock, Column 1, lines 63-66). Therefore, it would have been obvious to combine Warnock with Kelley for the benefit of providing a familiar visual display of a fixed digital document to the reader. It also would have been obvious to a person of ordinary skill in the art to include the indication of overlapping data of Atkinson with the method and program for improving the readability of digital documents of Kelley and Warnock. The motivation for doing so would have been to mask the regions of the data that are currently being displayed. (See Atkinson, Column 10, lines 37-40). Therefore, it would have been obvious to combine Atkinson with Kelley and Warnock for the benefit of identifying lines of data already displayed to obtain the invention as specified in claim 33.

As per claim 35, Kelley, Warnock and Atkinson disclose the limitations of claim 33 as described above. Kelley also discloses displaying virtual pages of the multiple virtual pages where unrepeated content of multiple virtual pages starts at a common spatial position on the multiple virtual pages. (See Kelley, Figure 6, and Column 7, lines 18-23).

As per claim 37, Kelley, Warnock and Atkinson disclose the limitations of claim 33 as described above. Warnock also discloses that the overlap is shaded or highlighted in reverse video. (See Warnock, Column 9, lines 19-24). Kelley, Warnock and Atkinson are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the shading of Warnock with the method and program for improving the readability of digital documents of Kelley, Warnock and Atkinson. The motivation for doing so would have been to provide a visual indicator of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Kelley, Warnock and Atkinson for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claim 37.

As per claim 39, Kelley, Warnock and Atkinson disclose the limitations of claim 33 as described above. Kelley also discloses determining a minimum integer number of virtual pages per page of the digital document while maintaining legibility, aspect ratio, and good margins. (See Kelley, Figure 6, and Column 7, lines 13-32).

Claims 40 and 41 are rejected on the same basis as claim 33.

As per claims 34 and 36, Kelley, Warnock and Atkinson disclose the limitations of claim 33 as described above. Warnock also discloses lowlighting or using half-tone to visually identify context within a document. (See Warnock, Column 9, lines 19-24). Kelley, Warnock and Atkinson are analogous art because they are from the same field of endeavor of displaying data online. At

the time of the invention it would have been obvious to a person of ordinary skill in the art to include the lowlighting or half-tone of Warnock with the method and program for improving the readability of digital documents of Kelley, Warnock and Atkinson. The motivation for doing so would have been to provide a visual indicator of the next line of text to be read. (See Warnock, Column 9, lines 14-18). Therefore, it would have been obvious to combine Warnock with Kelley, Warnock and Atkinson for the benefit of identifying the next portion of text to be read to obtain the invention as specified in claims 34 and 36.

Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley (U.S. Patent 6,694,485 B1), Warnock (U.S. Patent and Atkinson (U.S. Patent 4,622,545) as applied to claim 33 above, and further in view of Bereiter (U.S. Patent 5,909,217).

As per claim 38, Kelley, Warnock and Atkinson disclose the limitations of claim 33 as described above. Kelley, Warnock and Atkinson do not disclose expressly that the overlap is grayed. Bereiter discloses graying out portions of overlap. (See Bereiter, Figure 3, and Column 4, lines 35-49). Kelley, Warnock, Atkinson and Bereiter are analogous art because they are from the same field of endeavor of displaying data online. At the time of the invention it would have been obvious to a person of ordinary skill in the art to including the graying out of overlapping data of Bereiter with the method and program for improving the readability of digital documents of Kelley, Warnock and Atkinson. The motivation for doing so would have been to help present the context of the non-grayed data.

Art Unit: 2176

(See Bereiter, Column 4, lines 43-48). Therefore, it would have been obvious to combine Bereiter with Kelley, Warnock and Atkinson for the benefit of emphasizing the context of the page to obtain the invention as specified in claim 38.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Allam (U.S. Publication 2002/0116420 A1) discloses a method and apparatus for displaying and viewing electronic information
- Cooperman (U.S. Patent 5,784,487) discloses a system for document layout analysis.
- Rowe (U.S. Patent 5,781,785) discloses a method and apparatus for providing an optimized document file of multiple pages
- Michelman (U.S. Patent 6,128,633) discloses a method and system for manipulating page-breaks in an electronic document
- Hayakawa (U.S. Patent 6,741,268 B1) discloses a page information display method and apparatus.

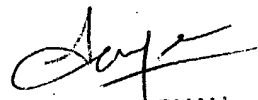
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laurie Ries whose telephone number is currently (703) 605-1238. After mid-October, 2004, the examiner can

Art Unit: 2176

be reached at (571) 272-4095. The examiner can normally be reached on Monday-Friday from 7:00am to 3:30pm.

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LAR


SANJIV SHAH
PRIMARY EXAMINER